

881 Hillside Remedial Action Project

REVIEWED FOR CLASSIFICATION/UCM

By W. L. [signature]

Date 05/30/98

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 **EG&G ROCKY FLATS**

June 14, 1990

ADMIN RECORD

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A-DU01-0002B9

Agenda

- **Introduction / Agenda** **DOE (Schassburger)**
- **Overview** **EG&G (Kersh)**
- **Issues / Resolution** **EG&G (Greengard)**
- **Project Approach** **EG&G (Greengard)**
- **Pre-commencement**
- Inspection** **EG&G (Greengard)**
- **Schedule** **EG&G (Greengard)**
- **Audience Questions** **DOE / EG&G**

Overview

- Not Working in SWMU - public health and safety not in question.
- Never the less questions regarding 881 operations during EPA / CDH inspection March 23
 - Procedures
 - Documentation
 - Project Management
- EG&G suspended operations until issues resolved and stronger management controls established

Overview

- Issues now resolved and controls in place
- Complete review supported instrumentation was installed, and its calibration and operation were proper and records existed. Analysis of samples supports that public and worker health and safety not threatened.

Overview

- **Summary of issues**

1- Public concern regarding resuspension

- **Concern reviewed and addressed**

2- Inconsistencies between documents

(Responsiveness Summary, Health and Safety Plan) and procedures in areas of dust control and air monitoring

- **Inconsistencies resolved**

3- Availability of field instrumentation calibration logs

- **Project logs including calibration records available at work site**

4- Control of decontamination liquids

- **Operational and management changes implemented**

Overview

Procedures and Management

- Phase 1a involves construction and drilling adjoining waste sites on the 881 Hillside
- All construction and drilling will be controlled by consistent work procedures, Health and Safety Plans, QA documents, and a Project Management Plan
- A project manager and construction coordinator have been assigned to oversee that all work is conducted according to the controlling documents
- All documentation, procedures, plans, and permits compiled for Phase 1a will serve as a foundation for all following phases of work, with appropriate upgrades made as required (in reading room)

Issue / Resolution

June 14, 1990

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 **EGG ROCK FLATS**

Issue 1 Resolution

Public Concern Regarding Resuspension

- Shutdown criteria for construction operations
 - IRAP and RS: suspend operations if wind exceeds 15 mph or alpha radiation exceeds 0.03 pCi/m as measured by Hi-Volume sampler
- Construction and wind velocity records document that no construction occurred at winds greater than 15 mph criterion
- Air sampler located at site prior to construction operated intermittently mid-Jan to Feb 6, and continuously since Feb 6 (cumulative samples show .000004 pCi / m³)
- No significant changes in air monitoring data (Dec-Mar) for the stations in vicinity

Issue 1 Resolution

Public Concern Regarding Resuspension

- DOE-derived concentration guide for Pu inhalation is 0.03 pCi/m³ sustained over a one-year period (24 hrs / day, 7 days / week)
- All air sampler data (8 stations in vicinity) analyzed for the period January-March 1990; 1000 times lower than guideline
- Planned work not likely to cause fugitive dust greater than the measured results
- Four Hi-Vol air samplers now at site; will be operational prior to start of construction on continuous power.

Issue 1 Resolution

Public Concern Regarding Resuspension

- Hi-Vol not real-time measurement
- Other instrumentation evaluated for possibility of real-time monitoring

Issue 1 Resolution

Public Concern Regarding Resuspension

- Other instrumentation (time to measure continuous maximum concentration of 0.03 pCi/m³ on Hi-Vol filter paper)
 - Fidler detector 130 days
 - Hyperpure germanium detector. . . 69 days
 - Ludlum 12-1A 48 days
- Conclusion: Real-time radiometric measurement not achievable

Issue 1 Resolution

Public Concern Regarding Resuspension

- What can be done in real-time to ensure operations shutdown if alpha exceeds 0.03 pCi/m³ ?
- Real-time dust monitor (TSI "Piezobalance" Model 3500 Respirable Aerosol Mass Monitor) will be used
- Work will be shut down at 6 mg dust/m³ air as measured by the dust monitor

Issue 1 Resolution

Public Concern Regarding Resuspension

- At 6 mg/m³, plutonium concentration in air will be less than 0.03 pCi/m³, even assuming the maximum plutonium concentration measured in 881 soils (4.8 pCi/g)
- Maximum concentration not at area of treatment plant construction; average concentration at construction site is 0.82 pCi/g
- Calculations according to OSHA nuisance dust exposure method -- assume no dust control
- Dust control will be implemented; therefore, calculated concentrations will not be reached even at shutdown

Issue 1 Resolution

Public Concern Regarding Resuspension

- Maximum risks to workers and individual/public if exposed for one year (8-hr/day) to dust resuspended at the worksite at the shutdown criterion of 6 mg/m³:

<i>Worker Risk</i> ¹		<i>Individual / Public Risk</i> ¹	
Maximum ²	Average ³	Maximum ²	Average ³
1.3 • 10 ⁻⁵	2.1 • 10 ⁻⁶	1.6 • 10 ⁻⁹	2.7 • 10 ⁻¹⁰

- Dust control measures will ensure that even these potential risks will not be realized

- 1 Latent cancer fatalities (fatality resulting from cancer induced by the exposure considering latency period of up to 50 yrs)
- 2 Assumes maximum Pu concentration found in 881 soils (4.8 pCi/g)
- 3 Assumes average Pu concentration in 881 soils (0.82 pCi/g)

Issue 2 Resolution

Inconsistencies between Documents and Procedures for Dust Control and Air Monitoring

- Work procedures, in increased detail, have been issued for all construction and drilling work. Soil must be wet down before dust-generating activities can begin. Construction procedures have been amended to reference this requirement.
- Work procedures dictate that all four Hi-Vol air samplers and wind anemometer must be operational before construction work can resume. Additionally, wind speed shutdown criteria and procedures for dust-generating activities have been established.

Issue 2 Resolution

Special Health and Safety Measures Implemented

- **Construction work (dust generating activities including traffic)**
 - **Minimize / reroute vehicle traffic to extent practical; 5-mph speed limit established**
 - **Dust-generating activities will be shut down when winds above 15 mph are encountered, as measured by the site-located anemometer.**
 - **Data logger will activate beacon when 15-minute average windspeed is over 15 mph for two consecutive 15-minute periods. Dust-generating activities will stop when beacon on; resume when off.**

Issue 2 Resolution

Special Health and Safety Measures Implemented

- **Construction (cont.)**
 - **All soil will be wet down prior to any dust-generating activities. Based on RFP studies, no resuspension occurs if soil wet to 15% moisture content. Soil moisture content will be at least 15% as measured with a Soiltest "Speedy Moisture Tester" meter.**
 - **Four Hi-Vol air samplers will be set up and be operational prior to start-up of any construction. Samples will be analyzed monthly.**
 - **Dust monitor will provide real-time dust measurements**

Issue 2 Resolution

Special Health and Safety Measures Implemented

- **Drilling work**
 - Surface soil will be wet down prior to drilling.
 - All drilling work will be shut down when winds over 35 mph are encountered, due to rig-related safety concerns.
 - Shift supervisor to contact project manager when wind over 35 mph; PM will inform drilling supervisor by radio to stop work.
 - All drilling work will be monitored with organic vapor (H-nu) monitor for VOCs, and with Ludlum instrument for radionuclides.
 - Nearby stations of Plant ambient air monitoring network to provide additional monitoring coverage.

Issue 3 Resolution

Availability of Field Instrumentation Calibration Logs

- **Field instrumentation calibration was recorded along with data records for radiation monitoring. Records had been kept elsewhere. Duplicate records will be kept as part of the project documentation at the site and at the ER Department in Building T130B.**

Issue 4 Resolution

Control of Decontamination Liquids-Drilling

- Decontamination pad liner has been replaced
- Water will be pumped from decontamination area into tanks as soon as possible
- Tanks will be emptied as soon as possible
- EG&G management has committed to liquid waste removal as soon as possible, which will ensure that liquid levels will be kept at a safe level

Project Approach

EG&G Requirements

- Improved control of project activities through the following documents:
 - Work procedures
 - Health and Safety Plan (H&SP)
 - Quality Assurance Plan (QAP)
 - Project Management Plan (PMP)

Work Procedures for Construction and Drilling

- Detailed work procedures for construction and drilling have been developed for Phase Ia work
- Procedures outline prerequisites before work can start (required personnel and materials, safety equipment, and governing documents), procedure description, references to specifications and other governing documents, and cautions for each work procedure
- Procedures will help ensure that work tasks are completed in order as specified

Health and Safety Plan

- **Construction and Drilling Health and Safety Plans revised to clear up inconsistencies**
- **Windspeed, dust and soil moisture shutdown criteria and work procedures documents developed to augment the Health and Safety Plans**

Quality Assurance Plan

- **Quality Assurance Project Plan prepared for construction work**
- **Quality Assurance Project Plan revised for drilling activities**
- **Readiness review checklist and training for construction personnel developed**

Project Management

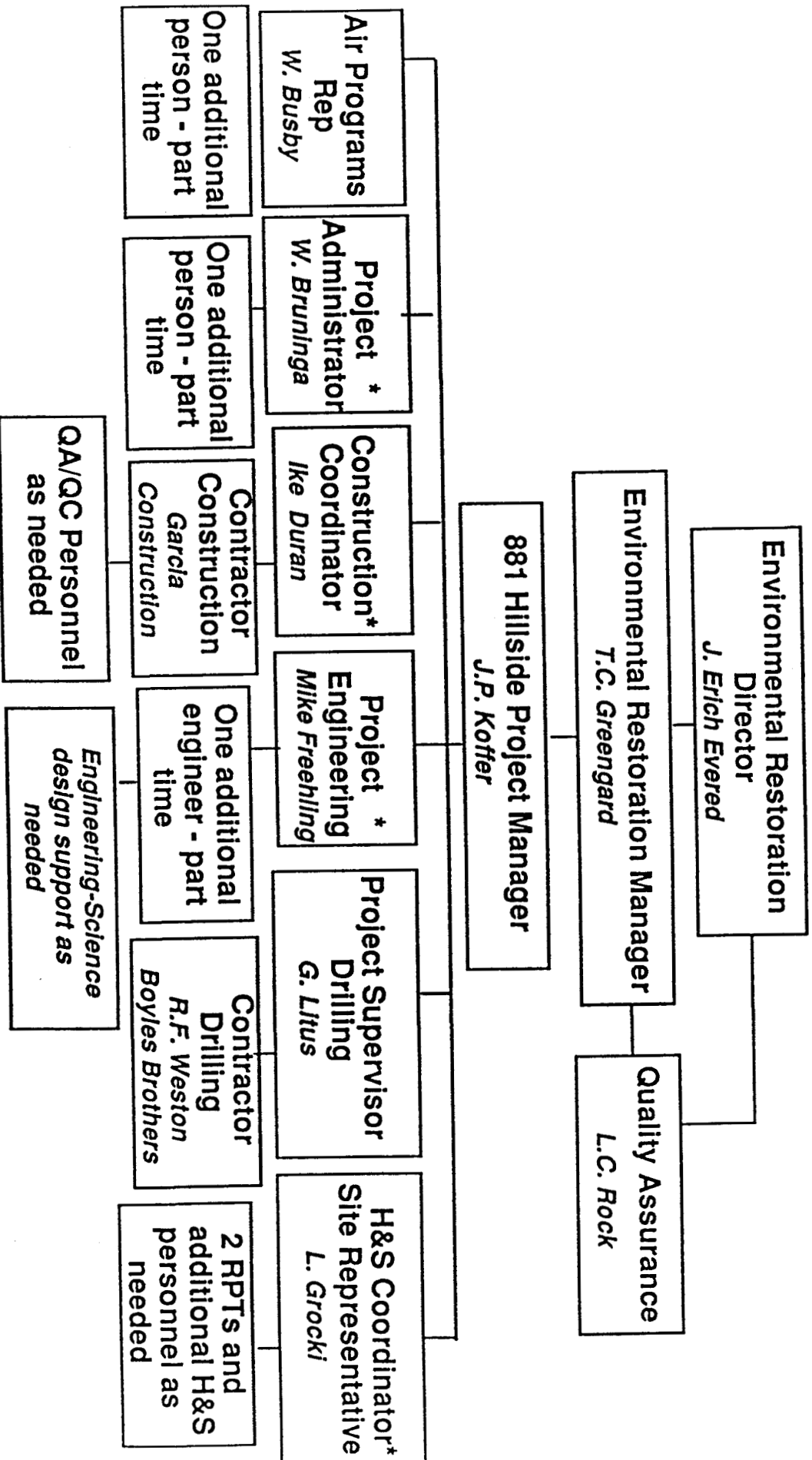
- **Project restart will be under the direction of an Environmental Restoration Project Manager according to a Project Management Plan. This Plan clearly establishes:**
 - **Project scope and milestones**
 - **Chain of command**
 - **Responsibilities of key personnel**
 - **Procedures and required training**
 - **Requirements for project reports**
 - **Other project control documents**

Project Management

- Full-time EG&G Environmental Restoration Project Manager and Construction Coordinator resident at site
- Records repositories at designated sites
- Work procedures with management sign off; safety prerequisites and cautions included at appropriate steps
- Procedures in continuous possession of Project Manager and Construction Coordinator.

Management System

881 Hillside IRA - Phase Ia



* Denotes persons matrixed to this project from various other directorates

Pre-Commencement Inspection

- **Conducted by DOE on 5/18/90**
- **Disciplines involved were: project management (four staff); QA/QC (two staff)**
- **Checklist review included: Qs on windspeed, work permits, H&S Plan, radiation surveys, OVA surveys (H-Nu)**
- **All issues resolved by EG&G 5/21/90**

Schedule of Restart Activities

1. Project records review / site inspection 5/18/90
2. Brief EPA / CDH on status of 881 start-up 5/21/90
3. Issue Health and Safety Plan for CDH / EPA review 5/22/90
4. Issue Quality Assurance Plan for CDH / EPA review 5/22/90
5. Issue Project Management Plan for CDH / EPA review 5/22/90
6. Issue Work Procedures for CDH / EPA review 5/22/90

Schedule of Activities

7. Finalize plans and procedures incorporating
CDH / EPA comments 6/8/90
8. Written response to CDH / EPA comments 6/11/90
9. Briefing for CDH / EPA on responses / status 6/12/90
10. Place pertinent 881 Hillside site documentation and plans in the public reading room
at Front Range Community College 6/13/90
11. Conduct personnel training on all 881
procedures:
 - Project Team: 5/16/90 (prelim); 6/18/90 (final)
 - Workers (OJT): First three days of construction

Schedule of Activities

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|---|---------|
| 12. Issue a press announcement on status of 881 start-up | 6/15/90 |
| 13. 881 meeting for interested organizations (status / public concerns) | 6/14/90 |
| 14. Provide 48 hours notice to CDH / EPA prior to start-up | 6/15/90 |
| 15. Complete installation of air samplers at construction site | 6/20/90 |
| 16. Commence drilling | 6/20/90 |
| 17. Start construction | 6/21/90 |